WHAT IS CLAIMED IS:

1. A dielectric recording apparatus for recording data in a dielectric material, comprising:

a probe for recording the data in the dielectric material;

a record data voltage generation device for generating a voltage corresponding to the data;

a bias voltage generation device for generating a bias voltage which is applied to the dielectric material; and

a voltage application device for combining the voltage corresponding to the data and the bias voltage and applying the combined voltage to the probe.

2. The dielectric recording apparatus according to claim 1, wherein the bias voltage is a direct current voltage equal to or smaller than a coercive electric field of the dielectric material.

3. The dielectric recording apparatus according to claim 1, wherein the bias voltage generation device comprises a voltage-value setting device for changing and setting a value of the bias voltage.

4. The dielectric recording apparatus according to claim 1, wherein the bias voltage generation device comprises a reversing device for reversing polarity of the bias voltage.

5. The dielectric recording apparatus according to claim 1,

wherein the dielectric material is a ferroelectric material.

6. A dielectric reproducing apparatus for reproducing data recorded in a dielectric material, comprising:

a probe for detecting a polarization state of the dielectric material corresponding to the data;

a data reproduction device for reproducing the data from the polarization state detected by the probe;

a bias voltage generation device for generating a bias voltage which is applied to the dielectric material; and

a voltage application device for applying the bias voltage to the dielectric material.

7. The dielectric reproducing apparatus according to claim 6, wherein the bias voltage is a direct current voltage equal to or smaller than a coercive electric field of the dielectric material.

8. The dielectric reproducing apparatus according to claim 6, wherein the bias voltage generation device comprises a voltage-value setting device for changing and setting a value of the bias voltage.

9. The dielectric reproducing apparatus according to claim 6, wherein the bias voltage generation device comprises a reversing device for reversing polarity of the bias voltage.

10. The dielectric reproducing apparatus according to claim 6,

wherein the data reproduction device reproduces the data by detecting a capacitance of the dielectric material corresponding to the polarization state with the probe.

11. The dielectric reproducing apparatus according to claim 6, wherein the data reproduction device comprises:

an oscillator for generating an oscillation signal having a frequency that changes depending on a capacitance of the dielectric material corresponding to the polarization state detected by the probe; and

a frequency-amplitude converting device for performing a frequency-amplitude conversion on the oscillation signal.

12. The dielectric reproducing apparatus according to claim 6, wherein the dielectric material is a ferroelectric material.

13. A dielectric recording / reproducing apparatus for performing data recording and data reproducing by using a dielectric material as a recording medium, comprising:

a probe for recording data to be recorded in the dielectric material and for detecting a polarization state of the dielectric material corresponding to data recorded in the dielectric material;

a record data voltage generation device for generating a recording voltage corresponding to the data to be recorded;

a data reproduction device for reproducing the data recorded in the dielectric material on the basis of the polarization state

detected by the probe;

a bias voltage generation device for generating a bias voltage which is applied to the dielectric material; and

a voltage application device for applying the bias voltage to the dielectric material.

14. The dielectric recording / reproducing apparatus according to claim 13, further comprising a switching device for switching between a first line for sending the recording voltage from the record data voltage generation device to the dielectric material through the probe and a second line for sending the bias voltage from the voltage application device to the dielectric material.

15. The dielectric recording / reproducing apparatus according to claim 13, further comprising:

a combining device for combining the recording voltage and the bias voltage; and

a switching device for switching between a first line for sending the recording voltage and the bias voltage from the combining device to the dielectric material through the probe and a second line for sending the bias voltage from the voltage application device to the dielectric material.

16. The dielectric recording / reproducing apparatus according to claim 13, wherein the bias voltage is a direct current voltage equal to or smaller than a coercive electric field of the dielectric material.

17. The dielectric recording / reproducing apparatus according to claim 13, wherein said bias voltage generation device comprises a voltage-value setting device for changing and setting a value of the bias voltage.

18. The dielectric recording / reproducing apparatus according to claim 13, wherein the bias voltage generation device comprises a reversing device for reversing polarity of the bias voltage.

19. The dielectric recording / reproducing apparatus according to claim 13, wherein the data reproduction device reproduces the data by detecting a capacitance of the dielectric material corresponding to the polarization state with the probe.

20. The dielectric recording / reproducing apparatus according to claim 13, wherein the data reproduction device comprises:

an oscillator for generating an oscillation signal having a frequency that changes depending on a capacitance of the dielectric material corresponding to the polarization state detected by the probe; and

a frequency-amplitude converting device for performing a frequency-amplitude conversion on the oscillation signal.

21. The dielectric recording / reproducing apparatus according to claim 13, wherein the dielectric material is a ferroelectric material.